

What is claimed is:

1. A filter apparatus comprising:
a base;
a breather diffusion path formed in the base;
5 a re-circulating filter channel adjacent the base; and
an absorption filter chamber adjacent the re-circulating filter channel and
communicating with the breather diffusion path.
2. The filter apparatus of claim 1, further comprising a shroud filter
10 wall adjacent the absorption filter chamber.
3. The filter apparatus of claim 1, further comprising a first re-
circulating filter channel wall having a first re-circulating filter retention groove,
the first re-circulating filter channel wall lies adjacent the re-circulating filter
15 channel and communicates with the base.
4. The filter apparatus of claim 3, further comprising a second re-
circulating filter channel wall having a second re-circulating filter retention groove,
the second re-circulating filter channel wall lies adjacent the re-circulating filter
20 channel and communicates with the base.
5. The filter apparatus of claim 4, further comprising a re-circulating
filter spanning the re-circulating filter channel and secured between the first re-
circulating filter retention groove and a second re-circulating filter retention
25 groove.
6. The filter apparatus of claim 5, in which the breather diffusion path
is formed on an outer surface of the base, and in which the absorption chamber is
adjacent an inner surface of the base, and further in which the breather diffusion
30 path communicates with the absorption chamber via a diffusion aperture of the
base.

7. The filter apparatus of claim 2, in which a shroud filter wall supports an impact filter medium on an exterior portion of the shroud filter wall, and in which an interior portion of the shroud filter wall provides a first absorption filter confinement wall.

5

8. The filter apparatus of claim 7, further comprising a second absorption filter confinement wall supported by the base.

9. The filter apparatus of claim 8, further comprising a cover supported by the first absorption filter confinement wall and the second absorption filter confinement wall.

10. The filter apparatus of claim 9, in which the base and the first and second absorption filter confinement walls in combination with the cover establish the absorption chamber.

11. The filter apparatus of claim 10, in which the absorption chamber confines an absorption filter, wherein the absorption filter absorbs corrosive gases and organic vapors.

20

12. The filter apparatus of claim 6, further comprising a base deck having a breather aperture, and in which the base deck supports the base.

13. The filter apparatus of claim 12, in which the breather aperture is adjacent a proximal end of the diffusion path and the diffusion aperture is adjacent a distal end of the diffusion path.

25

14. The filter apparatus of claim 13, further comprising a breather filter adjacent the breather aperture and supported by the base, the breather filter filtering particle contaminants as well as aerosol contaminants from an air stream migrating through the diffusion path.

30

15. The filter apparatus of claim 13, further comprising a breather filter adjacent the breather aperture and supported by the base deck, the breather filter filtering particle contaminants as well as aerosol contaminants from an air stream migrating through the diffusion path.

5

16. The filter apparatus of claim 12, in which the base deck in combination with the base along with the first and second re-circulating filter channel walls establish confines of the re-circulating filter channel.

10 17. The filter apparatus of claim 16, in which the re-circulating filter channel is partially lined with a surface filter medium.

18. The filter apparatus of claim 10, further comprises an absorption filter retained within the absorption chamber, in which the absorption filter
15 comprises the carbon structure that absorbs corrosive gases and organic vapors.

19. The filter apparatus of claim 18, further comprises a breather filter adjacent the absorption filter, in which the breather filter substantially precludes passage of particles into and out of the absorption chamber.

20

20. A data storage device comprising:

a base deck;

a disc stack assembly secured to the base deck;

an actuator assembly adjacent the disc stack assembly and affixed to the

5 base deck;

a top cover attached to the base deck enclosing the disc stack assembly and

the actuator assembly within a confined environment; and

means for filtering contaminants from the confined environment.

10 21. The data storage device of claim 19, in which the means for filtering contaminants from the confined environment comprises:

a base;

a breather diffusion path formed in the base;

a re-circulating filter channel adjacent the base; and

15 an absorption filter chamber adjacent the re-circulating filter channel, the

absorption filter chamber communicating with the breather

diffusion path.

20